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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,331	11/09/2001	James C. Paulson	019957-011211US	3312

20350 7590 11/03/2005

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER	
PROUTY, REBECCA E	

ART UNIT	PAPER NUMBER
1652	

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/007,331	PAULSON ET AL.	
	Examiner	Art Unit	
	Rebecca E. Prouty	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *57,59,61-65,67-70,101 and 113* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *57,59, 61-65,67-70,101 and 113* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims 1-56, 58, 60, 66, 71-100, and 102-112 have been canceled. Claims 57, 59, 61-65, 67-70, 101 and newly presented claim 113 are still at issue and are present for examination.

Applicants' arguments filed on 8/22/05, have been fully considered and are deemed to be persuasive to overcome some of the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 57, 59, 61-65, 67-70, 101, and 113 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined disclosures of Bergh et al (US Patent 5,272,066), Maras et al

(US Patent 5,834,251), Weinstein et al. (JBC 257: 13845) and Williams et al. (Glycoconjugate J. 12: 255). The rejection is explained in the previous Office Action.

Applicants argue that Williams et al. provide no evidence that 80% sialylation was achieved using the enzymes described therein. Applicants argue that Williams et al., actually provides evidence (i.e., the lower specific activity of the recombinant enzyme compared to the non-recombinant enzyme) as to why one of skill would lack a reasonable expectation that recombinantly produced sialyltransferases would retain appropriate kinetic properties to render them practical in a commercial scale synthetic method. This is not persuasive because the showing that the recombinant enzyme has a lower specific activity than the non-recombinant enzyme in no way leads to a conclusion that one could not reasonably expect to achieve high levels of sialylation. The %sialylation is a measure of the completeness of the reaction (i.e., whether all available substrate is used). Specific activity is not related to whether a chemical reaction goes to completeness and thus there is no basis for applicants statements that one could not reasonably expect to achieve high levels of sialylation using the recombinant enzyme. Based on the results of Williams showing that the specific activity of the recombinant enzyme was

approximately 1/3 that of the non-recombinant enzyme, a skilled artisan would merely expect that approximately 3 times more recombinant enzyme would be needed to achieve the same levels of sialylation. Furthermore, a skilled artisan would have still been motivated to use recombinantly produced enzyme, despite the need to use more based on its lower specific activity, in view of the known ability to produce much larger quantities recombinantly than can be produced by non-recombinant means.

Applicants further argue that new claim 113 is patentable in view of the limitation that the sialyltransferase is recombinantly produced in *Aspergillus niger* and the showing in the specification that *A. niger* produces extremely high yields of enzyme compared to other recombinant expression systems known at the time of the invention. However, this is not persuasive as the instant claims are not drawn to methods of producing sialyltransferase recombinantly but to methods of sialylating a glycoprotein. There is no evidence of record to show that a sialyltransferase produced in *Aspergillus niger* is any different in any respect within the claimed methods than a sialyltransferase produced by any other recombinant method. The levels of enzyme which are produced by different methods are only relevant to the cost and amount of time needed to obtain the enzyme needed to do the claimed method but are in no way

related to the success of the method itself. Furthermore, even there were evidence that an *A. niger* produced enzyme was unexpectedly better within the claimed method (for example it could achieve higher levels of sialylation that the same sialyltransferase produced by other means), the evidence would have to be such that a skilled artisan would reasonably believe that any sialyltransferase produced in *Aspergillus niger* would have this hypothetical unexpected property as applicants claims are not limited to use of any specific sialyltransferase.

Finally applicants argue that in previous responses, applicants have provide extensive evidence of the commercial success of the present invention by showing that over 20 successful feasibility studies have been carried out and a number of commercial licenses based on successful feasibility studies obtained but that nonetheless, the examiner questions whether this evidence is sufficient to establish commercial success. Applicants argue that such studies are indeed evidence of the commercial success of the claimed methods since use agreements are negotiated at arms length with sophisticated third parties, entering into such agreements is, itself evidence of commercial success and the evidence of record clearly shows that pharmacokinetics and other therapeutic properties of recombinant proteins can be improved using the methods of the

invention. However, there no evidence at all on which the examiner can judge whether the submitted evidence does constitute "commercial success" beyond simply applicants opinion that it is and even assuming *arguendo* that it would be considered commercial success nothing on which the examiner can judge the relationship of these studies/licenses to the claimed invention. Applicants unsupported statements that it was the limitations that are claimed versus other unclaimed factors which led to the assumed success are insufficient. As previously stated the burden of establishing nexus of the commercial success to **the claimed invention** clearly falls on applicants and the available evidence is far from sufficient. The examiner cannot even begin to evaluate for any of these situations all the factors that may have influenced any third party's reasons for taking a license and there is no evidence presented.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened

statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca E. Prouty whose telephone number is 571-272-0937. The examiner can normally be reached on Tuesday-Friday from 8 AM to 5 PM. The examiner can also be reached on alternate Mondays

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy, can be reached at (571) 272-0928. The fax phone number for this Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rebecca Prouty
Primary Examiner
Art Unit 1652